



ORD-OBM-DU-Survey

Important Updates on Digital Delivery



1 Overview of the Digital Delivery Initiative

2 Roadway (ORD) Updates

3 Bridge (OBM) Updates

4 Drainage (DU) Updates

5 Survey and Utility Updates

6 What's Next

7 Q&A

HELP

#EndTheStreakTX

End the streak of daily deaths on Texas roadways.

[TxDOT.gov](https://www.txdot.gov) (Keyword: #EndTheStreakTX)



#EndTheStreakTX Toolkit



Overview of Digital Delivery Initiative

Taylor Mansfield, DES Digital Delivery Section Task Lead



Updates and Current Steps:

- TxDOT OpenRoads Designer Workspace, Release 3
- Digital Delivery Workgroup
 - Representation from 13 Divisions and 6 Districts
- Peer Exchange with Utah DOT
- Pilot project
 - FM 1977, SAT District, Guadalupe County, 4R widening and reconstruction
- Consultant team
 - Prime: Kimley Horn
 - Will help develop a Strategic Plan
 - Will help with Implementation
 - Other duties related to Digital Delivery as assigned



- Future email address for correspondence with Divisions
- TxDOT District or Division PM/POC
- Online resources
 - Digital Delivery website (to be launched in the near future)
 - Design tools and training on TxDOT.gov: [txdot.gov/business/resources/design-tools-training](https://www.txdot.gov/business/resources/design-tools-training)
 - [Surveyor's toolkit \(txdot.gov\)](https://www.txdot.gov/business/resources/surveyor-toolkit)
 - Bentley Communities (currently only open to internal)

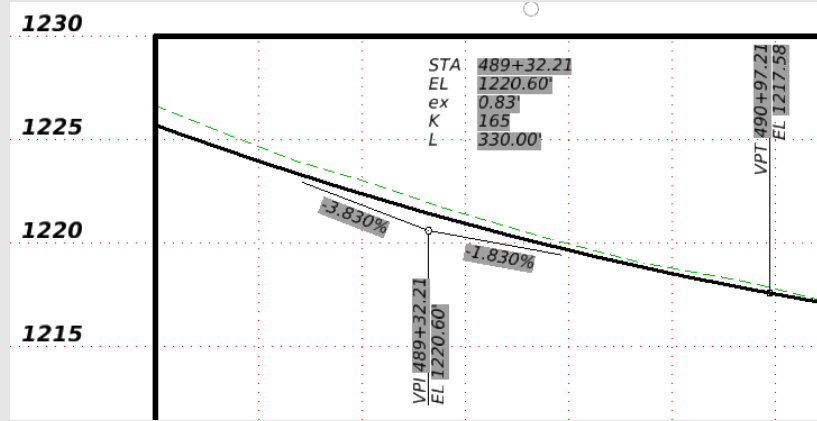
Roadway (ORD)

Taylor Mansfield, DES Digital Delivery Section Task Lead

Roadway Workspace Release 3 Updates



- VPI Elevation Annotation
- Superelevation data updated per RDM update
- ICS Printing, Creating Renditions
- Copyright year on borders



TITLE 4

© TXDOT \$YEARS SHEET 1 OF 50

CONT	SECT	JOB	HIGHWAY
SCS	SSS	SJS	SHWYS
DIST	COUNTY		SHEET NO.
SDSTS	SCTYS		SAAS

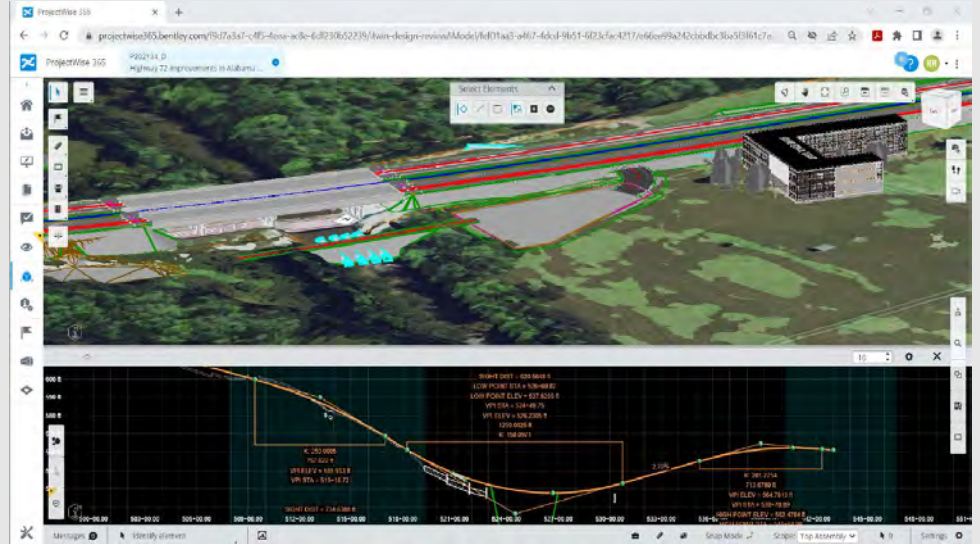
- Other minor/cosmetic internal Workspace updates

Planned Future Roadway Workspace and ORD-Related Updates



- ORD Version 10.12.####
- Double-banked profiles
- Adding Item Types
- Sheet Index
- New Environment in ProjectWise
- iTwin Design Review

BID ITEM	BID ITEM DESCRIPTION	UNIT OF MEASURE
100-6001	PREPARING ROW	AC
100-6002	PREPARING ROW	STA
100-6004	PREPARING ROW(TREE)(12" TO 24" DIA)	EA
100-6006	PREP ROW (TREE)(LESS THAN 24" DIA)	EA
100-6007	PREP ROW (TREE)(GREATER THAN 24" DIA)	EA
100-6009	PREPARING ROW (TREE) (6" TO 24" DIA)	EA





- Training (email taylor.mansfield@txdot.gov for details)
 - DES 750
 - Upcoming ORD Advanced training
 - Upcoming ProjectWise training
- Online resources
 - Bentley Communities (internal)
 - TxDOT.gov: <https://www.txdot.gov/business/resources/design-tools-training/openroads-designer.htm>
 - Bentley Learn: <https://learn.bentley.com/app/Public>

Bridge (OBM)

Courtney Holle, BRG Design Branch Manger

Bridge Workspace Release 3 Updates



- Levels, Drawings Scales, Text Styles and Dimensions styles from OBM have been added to MicroStation CE.
- Section, Plan, and Elevation callouts are now configured to have the correct display style OBM.





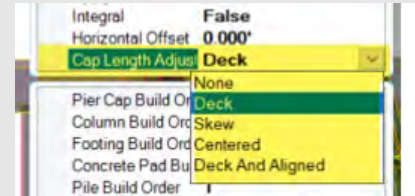
- Break backs support for decks
- Negative offsets for wingwalls
- Crowned top of caps on abutments and piers
- Footings can now be created using a template (similar to column templates)
- Approach slabs are a separate tool (New template for sleeper slab)



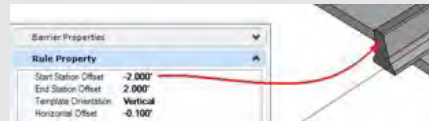
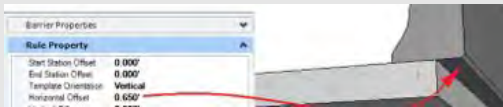
- Thickness of the bearing pads can now be defined as "Min" (Edge) or at Center.



- Substructure can be placed with additional adjustment options.

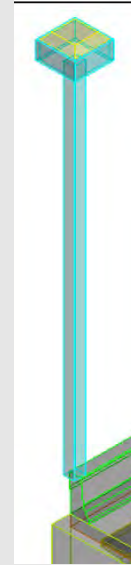
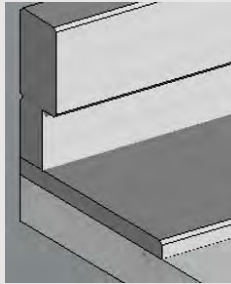


- Traffic Barriers have more flexibility in placement.





- Barrier can be used as elevation providers for accessory placement.
- A sidewalk can be defined as a barrier, and still be able to place a barrier on top (Barrier-on-barrier)





■ Got More Questions?

– TxDOT.gov

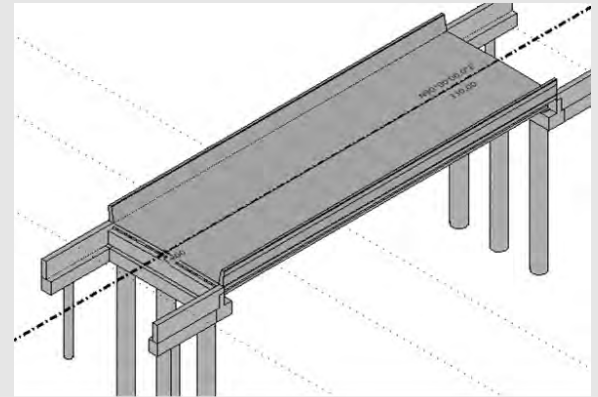
- <https://www.txdot.gov/business/resources/highway/bridge/3d-bridge-modeling.html>

– Email

- BRG_Bridge3DDesign
<bridge3ddesign@txdot.gov>

3D Bridge Modeling

- Expectation of Use of OpenBridge Designer
- OpenBridge Designer Workspace Files
- OpenBridge Designer FAQs
- OpenBridge Designer Workspace Readme



TxGirders

Drainage (ORD-DU)

Ab Maamar-Tayeb, DES H&H Section Team Lead



- Faster more stable Workspace (re-built workspace)
- Added additional 1800 cells including District specific cells
- Total of 5100 cells
- Automated DA delineation
- Existing feature definitions for pipe and inlets.
 - Connection to existing Drainage systems
- Improvements to plan production.
 - DU specific sheet templates
 - DU plan Annotations

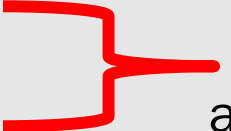


New node folder structure

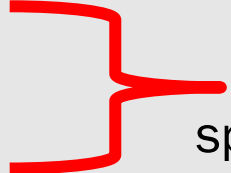


Node

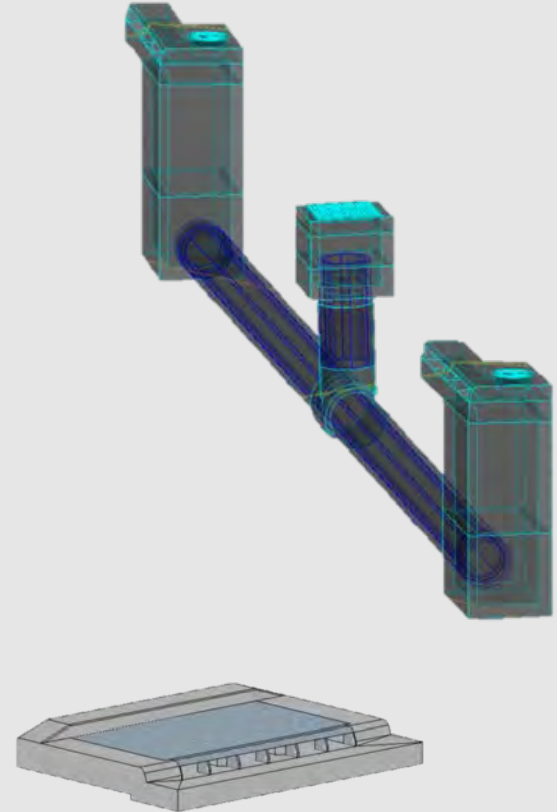
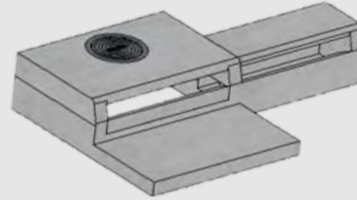
- StormWater Node
 - _Cross Section
 - _Headwalls
 - _Inlets
 - _Manholes
 - _Outfalls
 - _Taps
 - _Transitions
 - _02_FTW
 - _12_HOU
 - _15_SAT



Special outfall and tapping nodes



Included district specific drainage nodes



Faster More Stable Workspace



Easier Access to Structure Types



Node



StormWater Node



_Inlets



PC_Overpass_Drain



POD_FG_3x3



POD_FG_3x5



POD_FG_4x4



POD_SFG_3x3



POD_SFG_3x5



POD_SFG_4x4

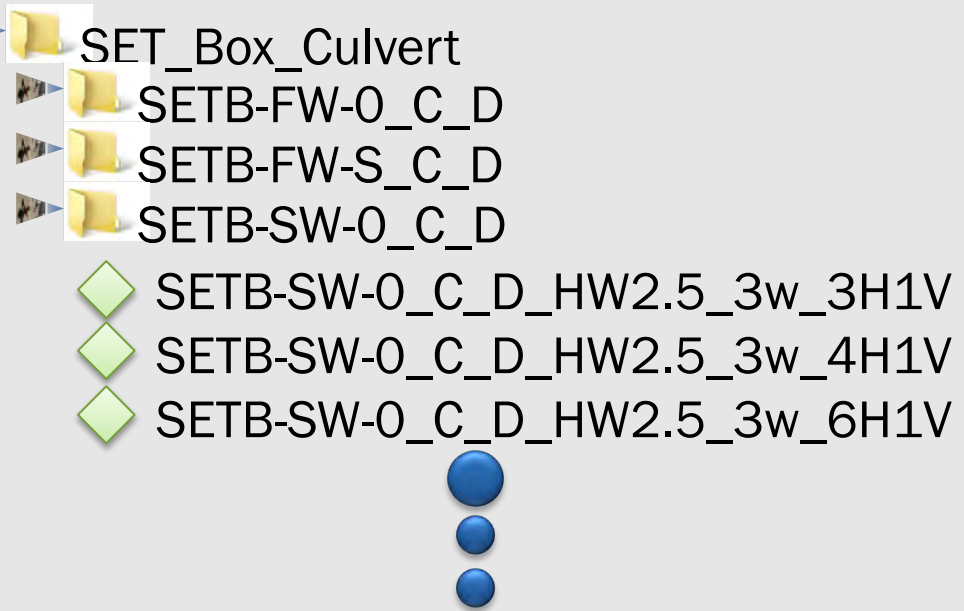
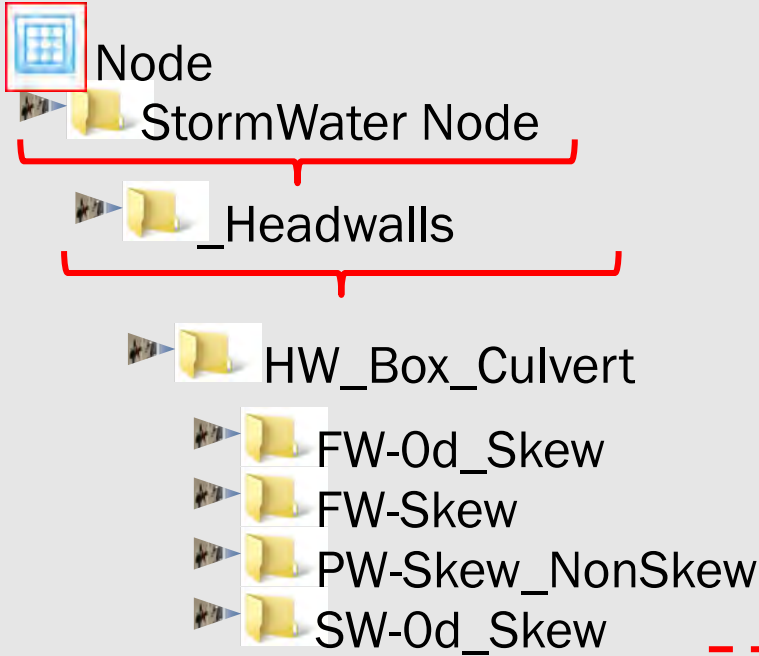
Consistent names of cells, feature symbology, feature definitions and element templates

Shorter Node names matching standard

Texas Department of Transportation		Bridge Division Standard			
PRECAST OVERPASS DRAIN					
POD					
FILE#	presid56-20.dgn	DW. TxDOT	GC. TxDOT	DW. TxDOT	GC. TxDOT
TxDOT	February 2020	CDOT	AKOT	JOB	HIGHWAY
REVISIONS		DIST	COUNTY	SHEET NO.	

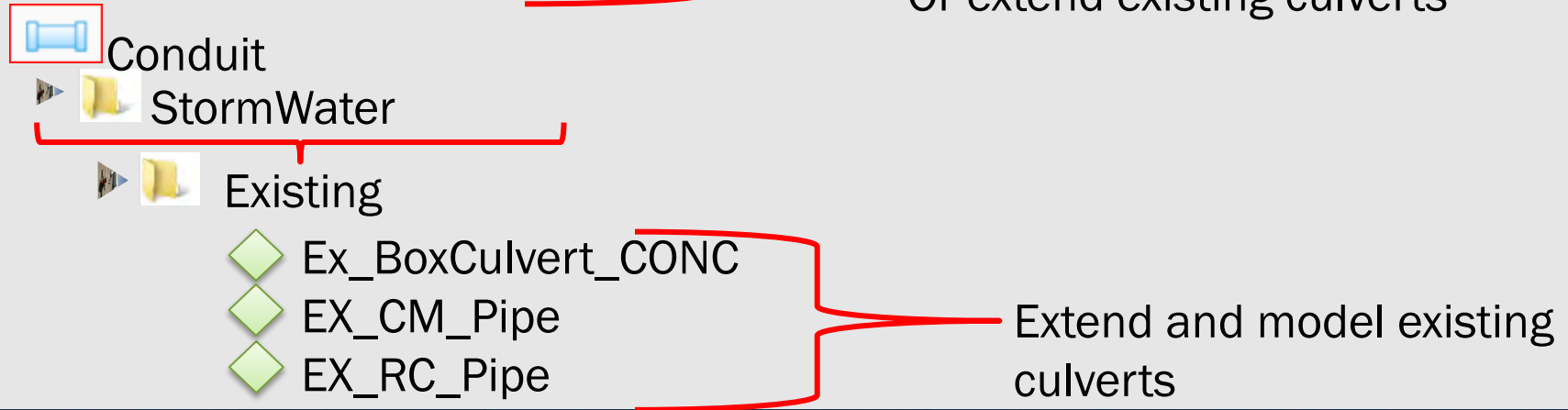
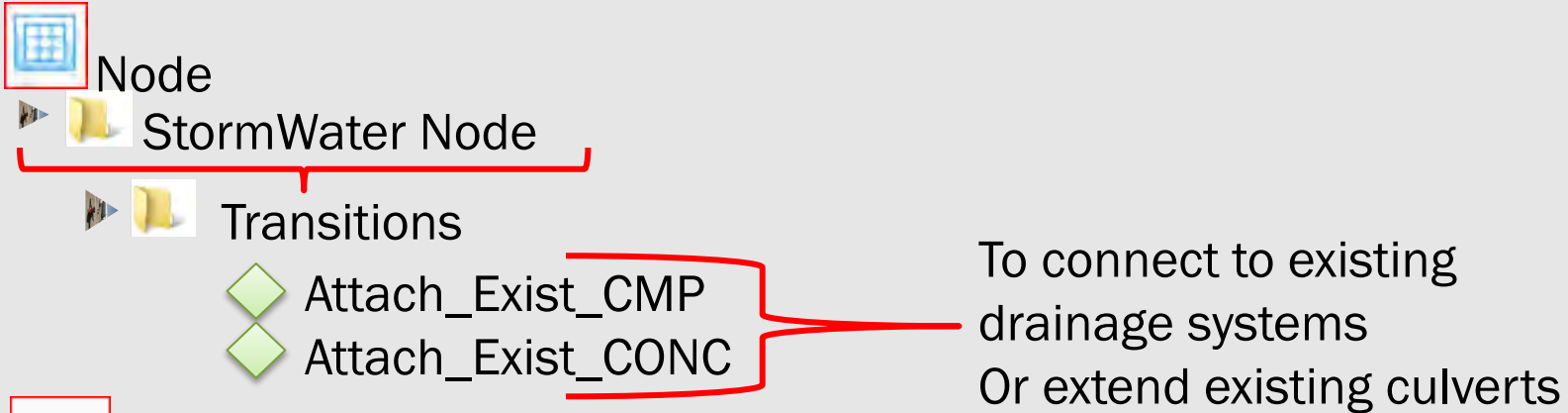


Updated library of headwalls and SETs.



Over 1800 element templates added

Existing Feature Definitions for node and Conduit (Transitions)



Improvements to Plan Production.



- DU workflows for creation of Plan Sheet (DA maps, Layout etc)
- DU specific workflows for creation of P&P Sheets
- DU updated workflows for creation of Lateral sheets
- DU cross-culvert layout sheets Workflow
- DU place note tool added under the Drawing production Tab



- Presets for labeling Drainage elements have been created. No automatic labeling yet available.



- DES 752 training (to be converted to TxDOT Workspace and Datasets) - Coming soon
- TxDOT DU Workflow Manual
- Future email address for correspondence with Divisions
- Online videos and training workshops available from Bentley – Bentley Learn website

<https://learn.bentley.com/app/Public/ViewLearningPathWithMasterCourseExpanded?lpld=117573&mcld=117573&CourseId=132650&moduleId=132654>

- TxDOT Digital Delivery resources
- <https://www.txdot.gov/business/resources/design-tools-training/openroads-designer.html>



- Civil labeler for DU
- Composite C values for drainage areas
- Projecting proposed ground over Storm Sewer Network to PGL profile
- Single source of truth. Updates all items across property tables
- Conduit symbology. Show inner outer walls of pipes for plan and profile view
- Ability to display multiple HGLs based on scenarios
- Allow multiple barrel gaps and different sizes and inverts into headwall culverts
- Added connection point to the center of structure that trim to connection regions
- Improved conflict/clash detection
- Additional cells as needed
- Item Type links to feature definitions

Survey and Utilities

Ronny Lackey, ROW Surveying Section Director

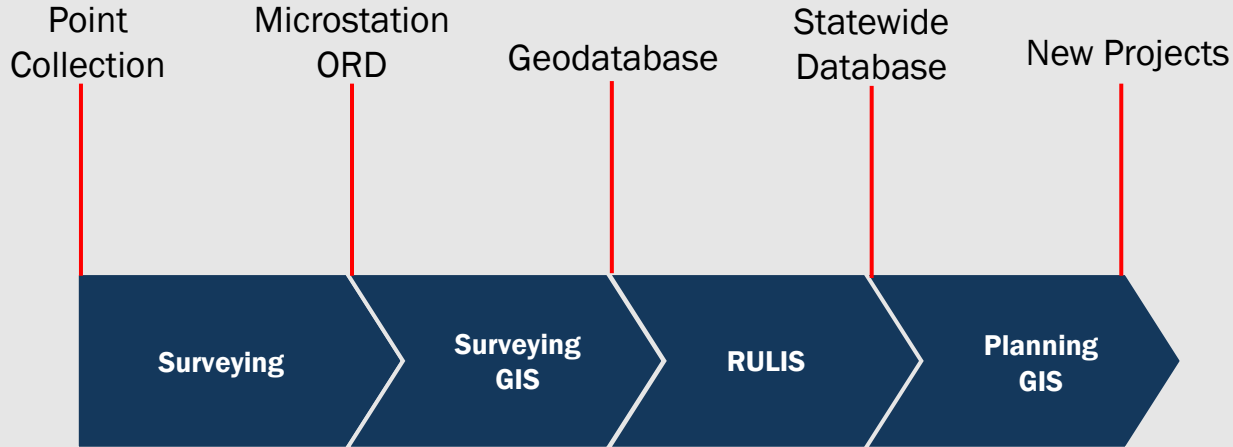
Kris Hartley, Survey and Remote Sensing Support Specialist



- Updated feature codes
- RULIS
- Updated cell library
- Updated line styles
- LiDAR ribbon for point cloud extraction



- Additional Utility Feature Codes
 - 70 new codes covering 6 utility types



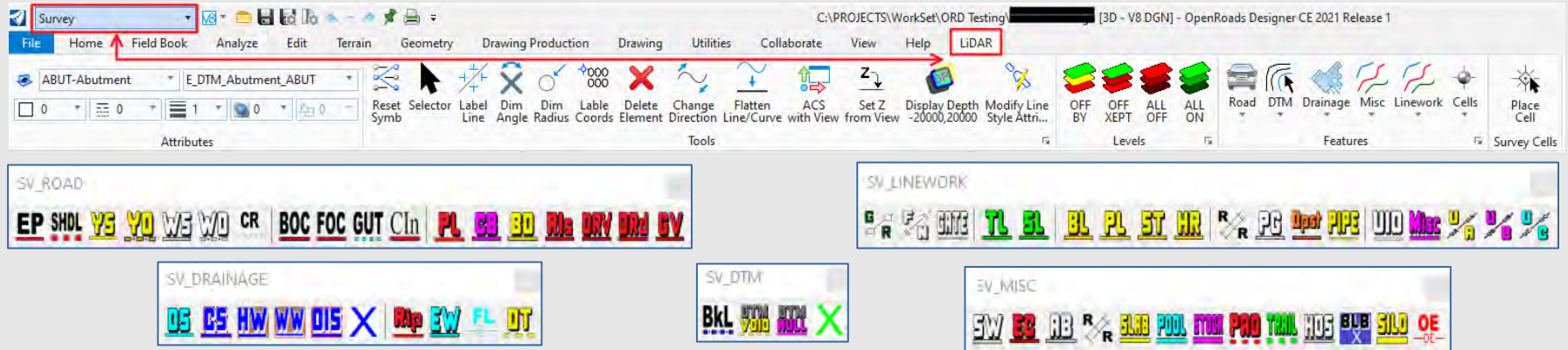
<https://www.txdot.gov/business/right-of-way/rulis.html>



- Line styles have been scaled uniformly
- Cells have been scaled uniformly



- The new LiDAR ribbon will aid point cloud extraction.
- Locate the LiDAR ribbon in the Survey Workflow.
- No need to set level/color/line type/weight.
 - Select the icon for the feature being extracted and begin drafting!





- Commonly used cells can be found quickly in the Cells Toolbox





Please direct comments\suggestions to

Kris Hartley Khartl-c@txdot.gov or

Ronny Lackey Ronny.Lackey@txdot.gov

What's Next

Taylor Mansfield, DES Digital Delivery Section Team Lead



- Workspace Release 3 by the end of March 2023
- Coming soon...Digital Delivery website
- Development keeps going! We will be moving toward software release 10.12 sometime in CY23, along with Workspace Release ("10.12 R1")
- Development of Workspace Release ("10.12 R2")
- Working with Bentley on feature/functionality improvements, which are the drivers for version upgrades/timing
- Likely new release of ProjectWise
- Upcoming events:
 - TxDOT 2023 Bridge and Roadway Design Conference
 - See also Blog on Bentley Communities